

U.S. PTO Customer No. 25280

Case# 5021

REMARKS

Claims 1, 3, 5, 8, 9, 11, 13, and 16 were rejected under 35 USC 103(a) as being unpatentable over Brodmann et al. (US Pat. No. 4,045,601). The Examiner submits Brodmann et al. teach a multi-step process for treatment of woven fiber, first, by impregnation with a liquid pre-finishing composition and then by impregnation with a liquid finishing composition (col. 2, lines 1-8). Further, the Examiner submits that Brodmann et al. also teach that the liquid pre-finishing composition comprises pigment dye (col. 4, lines 5-15). Thus, the Examiner believes that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a method comprising the steps of impregnating a colorant into a polymeric material, assembling a substrate from the polymeric material, and externally dyeing said substrate to form a final color shade on the substrate, and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the broad teachings of Brodmann et al. suggest a method comprising the above mentioned steps (Paper 13, pages 2-3).

Claims 4, 7, 12, and 15 were rejected as being unpatentable over Brodmann et al. in view of Freeman (US Pat. No. 4,902,787) under 35 USC 103(a). The Examiner submits that Freeman specifically teaches that a photostabilizer is incorporated into the dyestuff structure (col. 3, lines 23-27). Thus, the Examiner believes that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to add the UV stabilizing agent into a polymeric material as an internal process, with a reasonable expectation of success, because the broad teachings of Freeman suggest a method of impregnating a photostabilizer moiety into the dyestuffs structure and further, Brodmann et al. teach that the pre-finishing composition also contains pigment dye in general (Paper 13, pages 3-4).

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Applicant has amended independent claims 1 and 5 to include the limitations that (a) the ultraviolet stabilizing agent is added with the colorant to the melt of the polymeric material and (b) the base color shade provides between 70% and 90% of the total depth of color to the final color shade. Claims 3-4, 7-8, 11-12, and 15-16 have been cancelled.

Applicant now claims (in all independent claims) an inventive process wherein 70% to 90% of the base shade color of the polymeric material is derived from the internal dyeing step. In contrast, Brodmann et al. disclose that the dye introduced to the fabric from the pre-finishing composition (the Examiner contends that this process is comparable to Applicant's internal dye step) "will normally constitute a **minor portion** of the total dye combined with the fabric from the operation of the process of this invention." Further, Brodmann et al. state that "...the dye contributed by **the pre-finishing solution is less than one-fourth** of the total weight of dye combined with the fabric as a result of the operation of the process." (see col. 4, lines 7-14; emphasis added).

Thus, Applicant respectfully submits that Brodmann et al. teach away from Applicant's invention because Brodmann et al. teach that the pre-finishing composition constitutes only a minor portion of the total dye used to create a final color shade on the woven glass fiber fabric. In contrast, Applicant's invention teaches that the colorant added to the melt of the polymeric material during the internal dyeing step constitutes a base color shade achieving between 70% and 90% of the final color shade of the synthetic material – a **majority** of the final color shade for the synthetic material subjected to the dyeing process.

Additionally, Freeman discloses that a hybrid disperse dyestuff molecule that is comprised of predetermined chromophoric groups and a photostabilizing group may be used to

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dye substrates (see Abstract). The problem with this approach, when compared to Applicant's approach, is that Freeman requires a pre-manufacturing step – the step of creating a single dyestuff molecule which contains both colorant and UV stabilizer – before a substrate may be dyed. Applicant, on the other hand, has found a way to add colorant separate from the UV stabilizer into the melt of the polymeric material during the polymerization process (the process which internally dyes the polymeric material). This process, as described by Applicant, allows for the quick and easy change of colorant for the polymeric material without requiring additional time to manufacture a new dyestuff molecule. Thus, Applicant's invention is easier and more economical to manufacture and allows for quick color change when compared to Freeman's invention.

Accordingly, Applicant respectfully contends that the two-step dyeing process of Brodmann et al., either alone or in combination with the hybrid disperse dyestuff molecule of Freeman, would not teach or suggest an obvious variation that leads one skilled in the art to create Applicant's invention as currently claimed. More specifically, Applicant respectfully submits that Brodmann et al., either alone or in combination with Freeman, do not teach or suggest the use of an internally dyed polymeric material, wherein the polymeric material is dyed by introducing a colorant *and an ultraviolet stabilizing agent* into a melt of the polymeric material, to form a structure having a base color shade and the subsequent external dyeing of the material to form a final color shade *wherein the base color shade provides between 70% and 90% of the total depth of color to the final color shade*.

Thus, since claims 9 and 13 depend from currently amended independent claims 1 and 5, respectively, Applicant respectfully submits that the rejection of claims 1, 3-5, 7-9, 11-13, and 15-16 has been overcome.

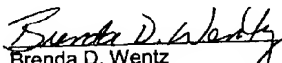
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In view of the above amendments and remarks, reconsideration of pending claims 1, 5, 9, and 13 is earnestly solicited.

Respectfully requested,

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